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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/583,040

02/05/2007

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EXAMINER

LEE, REBECCA Y

ART UNIT

PAPER NUMBER

1793

MAIL DATE

DELIVERY MODE

08/26/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/583,040	Applicant(s) OKAMOTO, YASUO	
	Examiner REBECCA LEE	Art Unit 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 August 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) 2,3 and 14-16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 4-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>06/15/06, 09/20/06, 01/22/09</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

Applicant's election without traverse of Group I, specie c), claims 1 and 4-13 in the reply filed on 08/07/09 is acknowledged.

Claims 2-3 and 14-16 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 08/07/09.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 and 4-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kamio et al. (JP 2000265232) in view of Sakamoto et al. (JP 64039339).

Regarding claims 1, 4-6, 8-10 and 12, Kamio et al. teach a process of producing an aluminum-alloy shaped product after continuous casting the aluminum alloy comprising:

a preheat treatment at a temperature of 490-510 °C for 3 to 5 hours (claim 2); even though the claimed preheat temperature range and the range disclosed by Kamio et al. do not overlap, a prima facie case still exists where the claimed range and the

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range disclosed by the prior art are close enough that one skilled in the art would have expected the same result MPEP 2144.05 I.

a step of heating the forging material during a course of forging at 400-500°C
(claim 2);

a step of post-heat treatment at 190-200 °C for 5 to 7 hours without performing solid solution treatment (claim 4).

Kamio et al. do not expressly teach the continuously cast rod of aluminum alloy with the claimed composition.

Sakamoto et al. disclose a continuously cast rod of an aluminum alloy, which is suitable for forging, with a composition relative to that of the claimed invention, in weight percent, as shown below (abstract and page 6, lines 19-20):

Element	Instant claims	Sakamoto et al.	overlap
Si	10.5-13.5	7.5-22	10.5-13.5
Fe	0.15-0.65	0.25-1.0	0.25-0.65
Cu	2.5-5.5	3.0-7.0	3.0-5.5
Mg	0.5-1.3	0.3-1.0	0.5-1.0
Ni	0.8-3	0.3-2.0	0.8-2.0
Sr	0.003-0.03	0.005-0.1	0.005-0.03
Mn	0.1-1.0	0.25-1.0	0.25-1.0
Al	balance	balance	balance

It would have been obvious to one of ordinary skill in the art to use the aluminum alloy cast rod of Sakamoto et al. in the process of Kamio et al. since Sakamoto et al. teach that such an aluminum alloy exhibit excellent wear resistance and forgeability by casting and heat-treating (abstract).

In addition, the amounts of Si, Fe, Cu, Mg, Ni, Sr, Mn and Al disclosed by Kamio et al. in view of Sakamoto et al. overlap the claimed amounts of Si, Fe, Cu, Mg, Ni, Sr,

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Mn and Al of the instant invention, which is prima facie evidence of obviousness MPEP 2144.05 I. It would have been obvious to one of ordinary skill in the art to have selected claimed amounts of Si, Fe, Cu, Mg, Ni, Sr, Mn and Al from the amounts disclosed by Kamio et al. in view of Sakamoto et al. because Sakamoto et al. disclose the same utility throughout the disclosed ranges.

Regarding claim 7, Kamio et al. disclose the aluminum alloy can contain additional P in an amount of less than 0.02% as claimed (section 0009).

Regarding claim 11, Kamio et al. disclose the forged aluminum alloy exhibits excellent fatigue strength at high temperature (abstract). One of ordinary skill in the art would have expected the percent reduction of high temperature fatigue strength resistance of a portion of the forging material is regulated to 90% or less as claimed.

Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kamio et al. (JP 2000265232) in view of Sakamoto et al. (JP 64039339) as applied to claim 1 above, and further in view of Evans et al. (US7267734).

Sakamoto et al. disclose the casting of the molten aluminum alloy is conducted at 670-850 °C (Page 5, lines 6-7), which overlaps the claimed range MPEP 2144.05 I.

Kamio et al. in view of Sakamoto et al. is silent about the casting speed. However, it is well held that discovering an optimum value of a result-effective variable requires only routine skill in the art MPEP 2144.05 II. In the instant case, casting speed is a result effective variable since it affects the intermetallic phases of the alloy, as evidenced by Evans et al. (Column 3, lines 65-67 and Column 4, lines 1-3). Therefore, it

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would have been obvious to one of ordinary skill in the art to have optimized the casting speed of Kamio et al. in view of Sakamoto et al. in order to achieve desired intermetallic phases of the aluminum alloy.

Conclusion

No claim is allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to REBECCA LEE whose telephone number is (571)270-5856. The examiner can normally be reached on Monday-Friday 8:00 am - 5:00 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, ROY KING can be reached on (571)272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/R. L./
Examiner, Art Unit 1793

/Roy King/
Supervisory Patent Examiner, Art
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